



# **In-Motion Satellite System**

**with built-in DVB for positive satellite identification**

## **9754 9754-LP**

### **Installation and Operating Instructions**



**Satellite Solutions for Mobile Markets**

11200 Hampshire Avenue South, Bloomington, MN 55438-2453  
Phone: (800) 982-9920 Fax: (952) 922-8424

[www.kingcontrols.com](http://www.kingcontrols.com)



## IMPORTANT!

The satellite TV market is expanding and changing. The information in this manual was accurate at the time of printing. If your King-Dome does not operate as outlined in this manual please call King Controls at (800) 982-9920 or visit our website at [www.kingcontrols.com](http://www.kingcontrols.com).

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DIRECTV® is a registered trademark of DIRECTV, Inc.

Dish Network™ is an official trademark of EchoStar Communications Corporation.

Bell ExpressVu is an official trademark of Bell Canada.

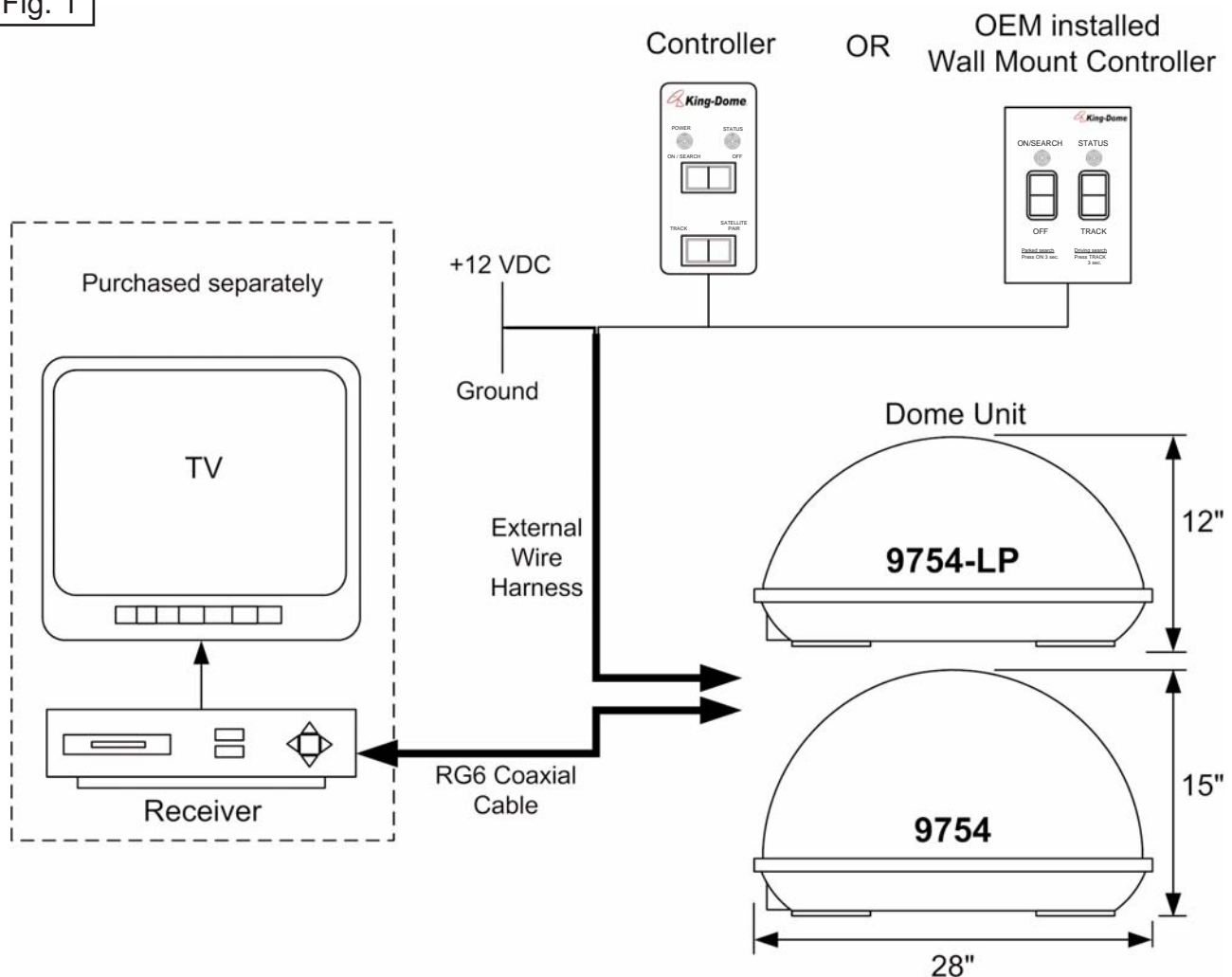
DVB® is a trademark of the DVB Digital Video Broadcast Project (1991-1996)

The King-Dome In-Motion Satellite System includes 2 main components (**Fig. 1**).

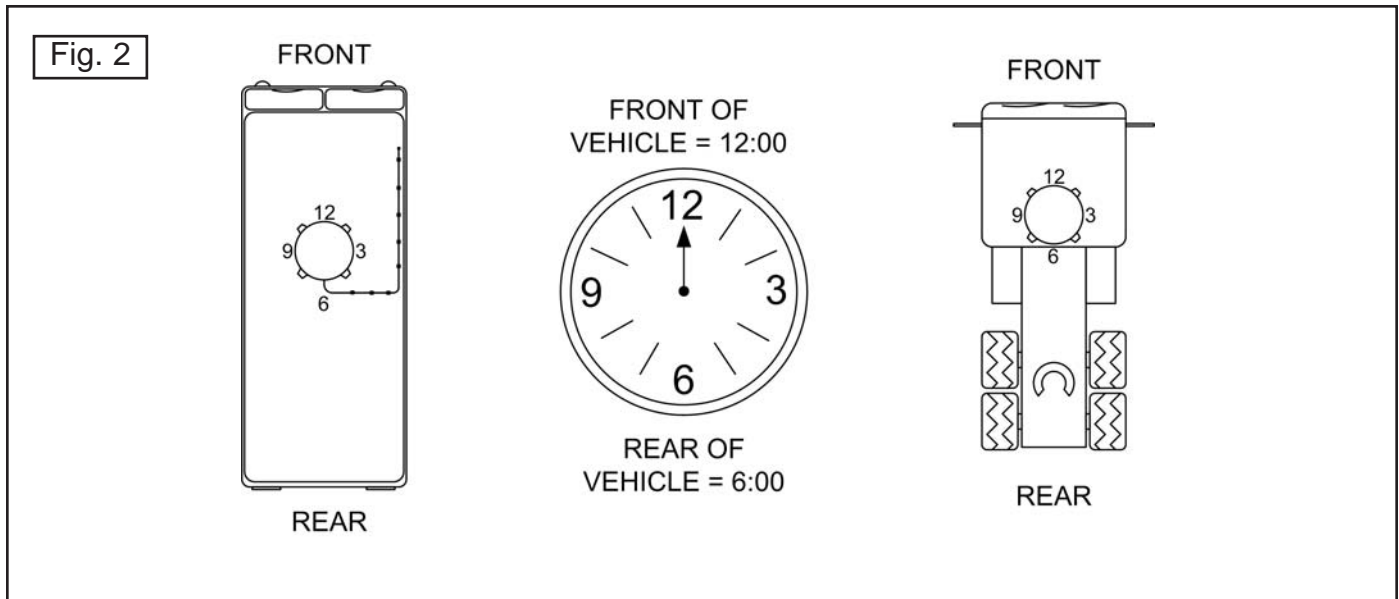
Dome (Antenna) Unit	Located on the roof of the vehicle. The dish is covered by a protective dome that keeps operational components free from the elements.
Controller	Located in the vehicle. Activates the search mode and provides limited diagnostic functions using the status light.

Note: A TV, satellite receiver, and program subscription are also required for satellite TV viewing. (Purchased separately.)

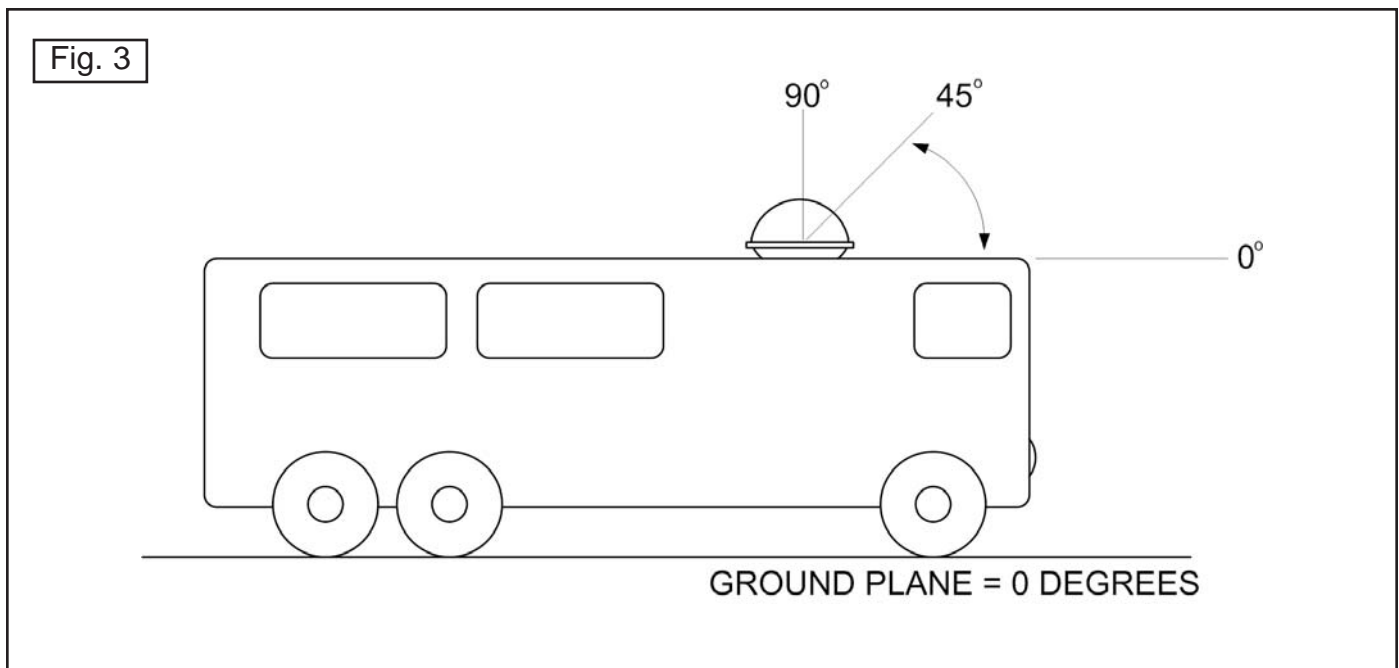
Fig. 1



**AZIMUTH:** Circular rotation around the vehicle.  
(like a clock face: front of vehicle is 12:00, rear is 6:00) **(Fig. 2)**



**ELEVATION:** Angle in degrees measured from the ground plane **(Fig. 3)**.



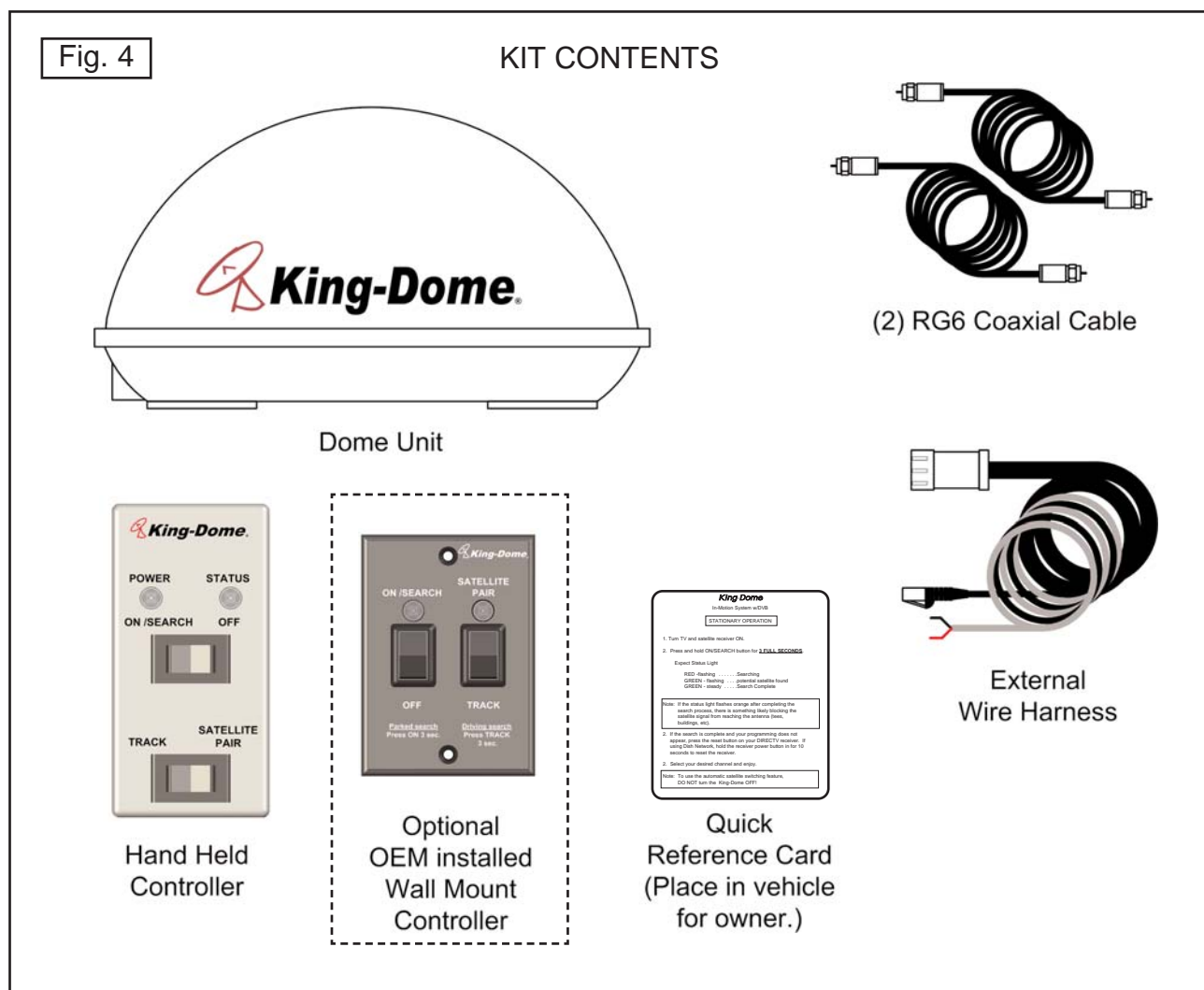
**SIGNAL STRENGTH:** Intensity of electronic signal received from the satellite transmission.

**TOOLS AND MATERIALS REQUIRED:**

- drill and drill bit set
- tape measure
- 7/16" open end wrench (coax connections)
- adhesive sealant (compatible with roof material)
- appropriate fasteners to install all components and wiring
- 5/32" allen wrench, channel lock or pliers (to remove shipping bolts)
- wire cutter (to remove shipping tie strap)
- #1844 King Controls Installation and Diagnostic Keypad

**KIT CONTENTS:**

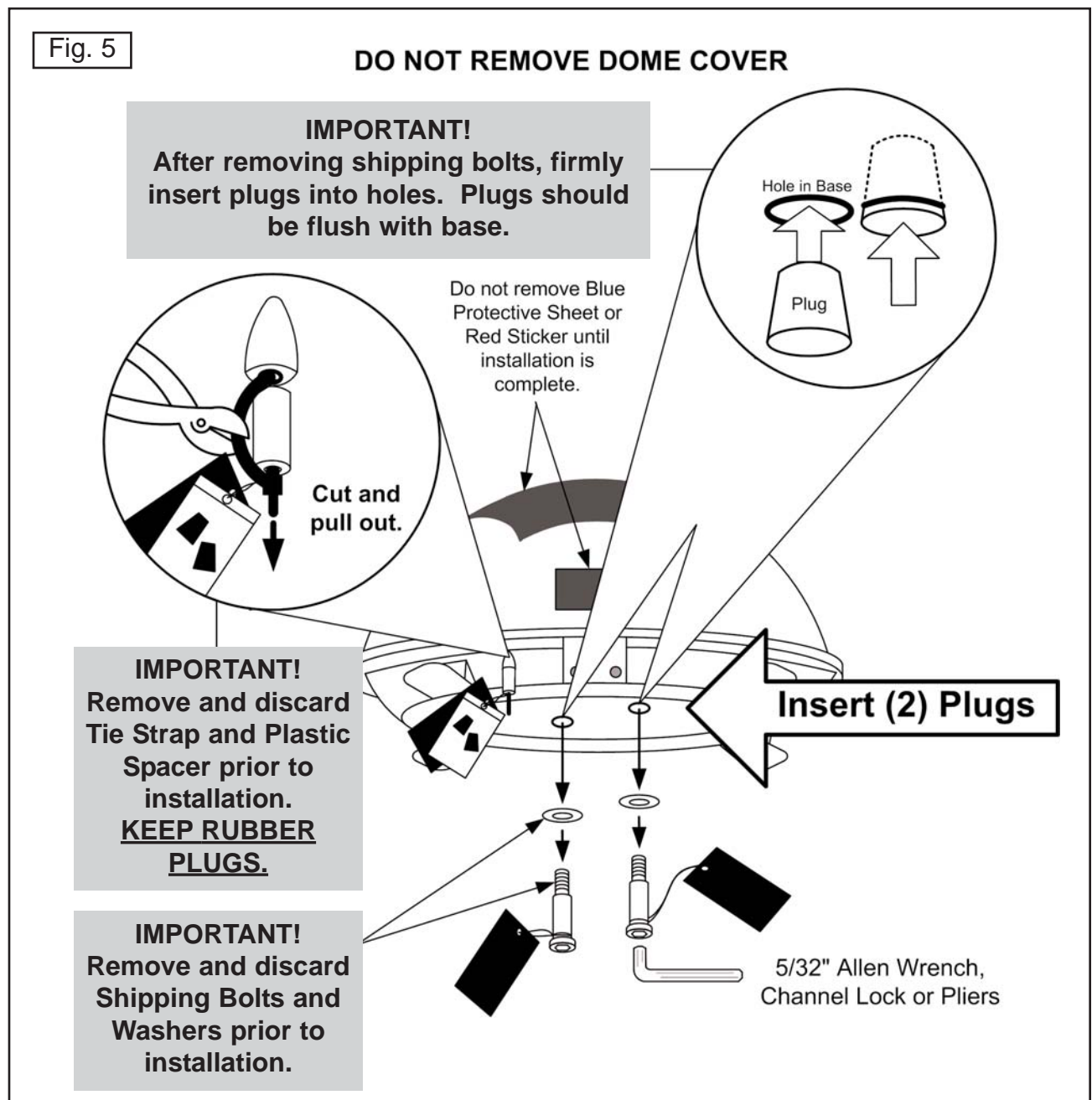
1. Unpack and identify all components (**Fig. 4**).



**IMPORTANT!** The tie strap and spacer, and the shipping bolts and washers must be removed from the bottom of the dome unit prior to installation. **DO NOT REMOVE THE DOME COVER TO REMOVE THESE SHIPPING RESTRAINTS.**

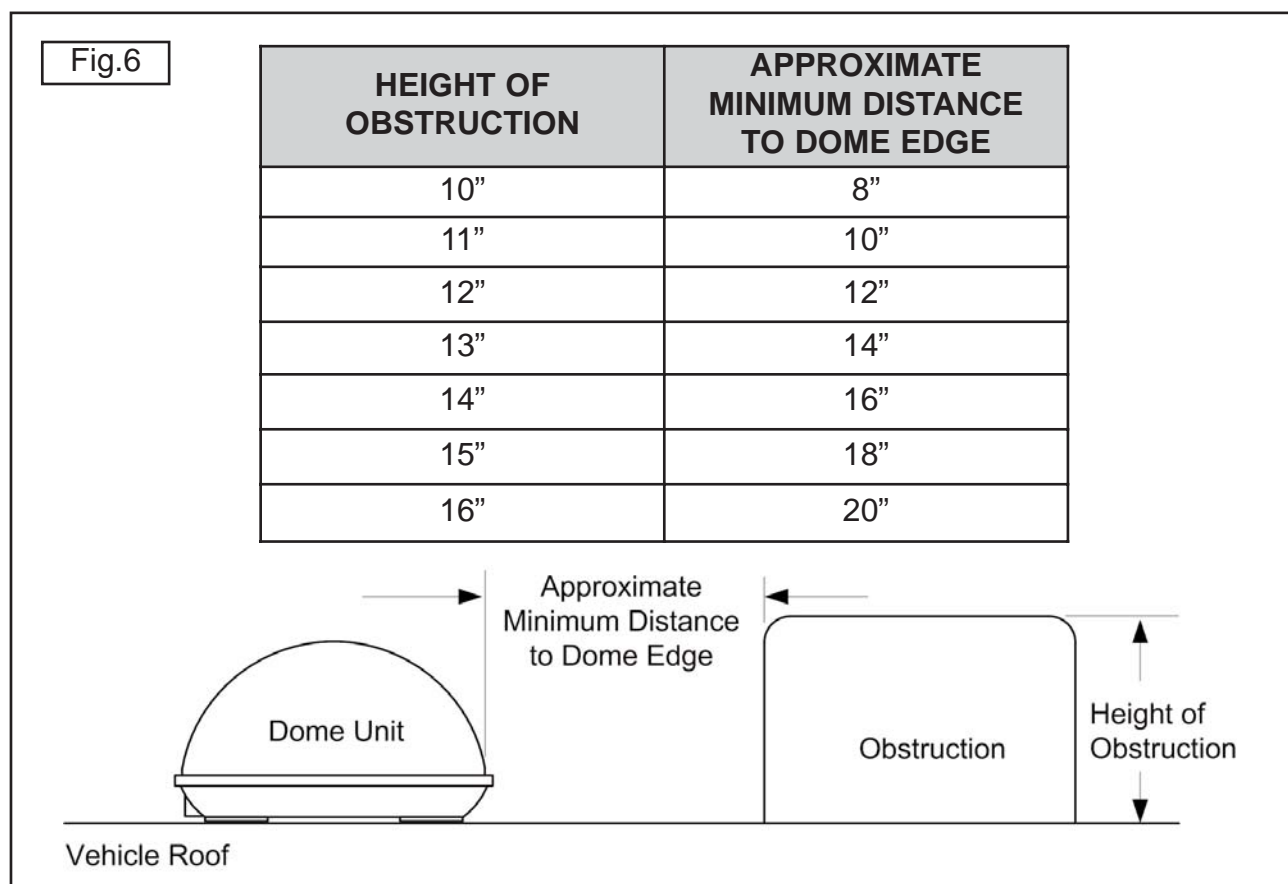
**YOU MUST PLUG THE SHIPPING BOLT HOLES WITH THE SUPPLIED PLUGS (ATTACHED TO TIE STRAP SHIPPING RESTRAINT).**

2. Remove and discard the tie strap and spacer (**KEEP RUBBER PLUGS**), and the (2) bolts and (2) washers that pass through the bottom of the base (**Fig. 5**).
3. Insert provided plugs into holes that were occupied by the shipping bolts. Inserted plugs should be flush with base (**Fig. 5**).



## DOME LOCATION

4. Select an area on the roof for the dome unit and the location where the wiring will enter the vehicle through the roof to the satellite receiver, controller, and 12 volt power source inside, using the following criteria:
  - a) The shortest distance between the dome unit and the satellite receiver is most desirable.
  - b) The dome unit requires a 28 inch diameter mounting area.
  - c) The dome unit should be mounted on the centerline of the vehicle.
  - d) There must be no “line of sight” obstructions. Air conditioning units, other antennas, and storage areas that are too close to the dome unit may prevent the satellite signal from reaching the dish **(Fig. 6)**.

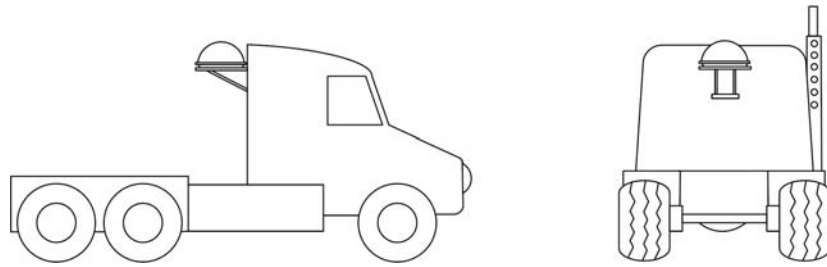


**IMPORTANT!** For installations on trucks with air shields, a bracket must be used for mounting the dome unit. The dome unit **MUST** be mounted to the air ride cab: **NEVER** to any structure mounted directly to the frame.

See bracket instructions for proper installation (Fig. 7).



Fig. 7



Example of truck installation using bracket.  
See bracket instructions for proper installation.

**IMPORTANT!** The dome unit **MUST** be mounted to the air ride cab: **NEVER** to any structure mounted directly to the frame.

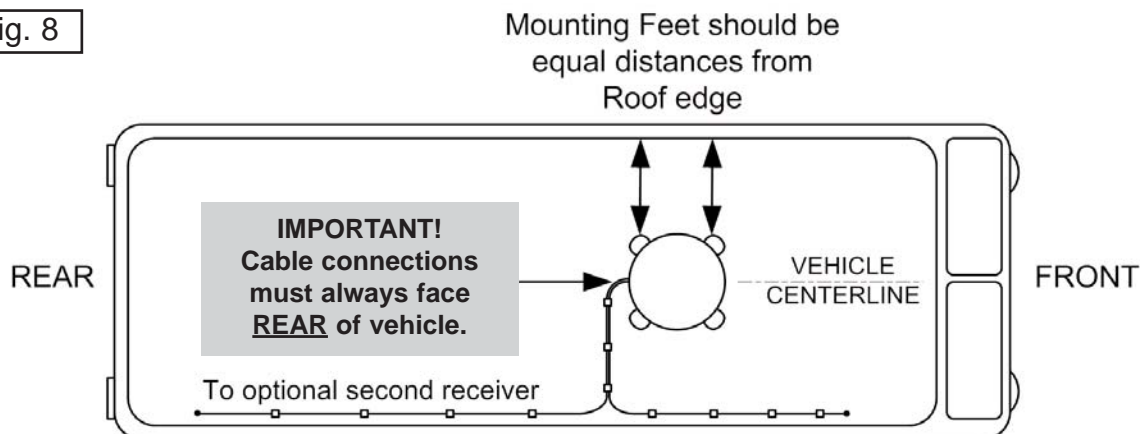
## DOMES INSTALLATION

**IMPORTANT!** Make sure shipping restraints are removed from bottom of dome unit and plugs are inserted in holes (Fig. 5, Page 5).

Cable connections must **ALWAYS** be positioned facing the rear of vehicle.

5. Place dome unit on installation location chosen using the criteria discussed in the previous section. Shipping restraints must be removed, plugs must be inserted in holes (**Fig. 5, Page 5**), and cable connections must be positioned facing rear of vehicle.
6. The dome unit must be positioned so that both feet on each side of the vehicle are equal distances from the roof edge. This should be checked by measuring the distance from each foot to the roof edge. Confirm that these measurements are equal (**Fig. 8**).

Fig. 8



**IMPORTANT!** The dome should never be mounted so that it is tilted more than two degrees in any direction.

Note: The installer is responsible for determining the most appropriate fastener to secure the dome to the roof. Depending on the roof material, fasteners such as lag screws, well nuts, sheet metal screws, toggle bolts and T anchors may be used, and should always be used in combination with a roof compatible sealant.

**IMPORTANT! The installer is responsible for weatherproofing all holes with sealant.**

7. Mount the dome unit. Use the pre-drilled holes in the mounting feet as a guide to install the fasteners into the roof. Use additional fasteners whenever necessary.
8. Test that the dome unit is secure by pulling upward from each foot location.

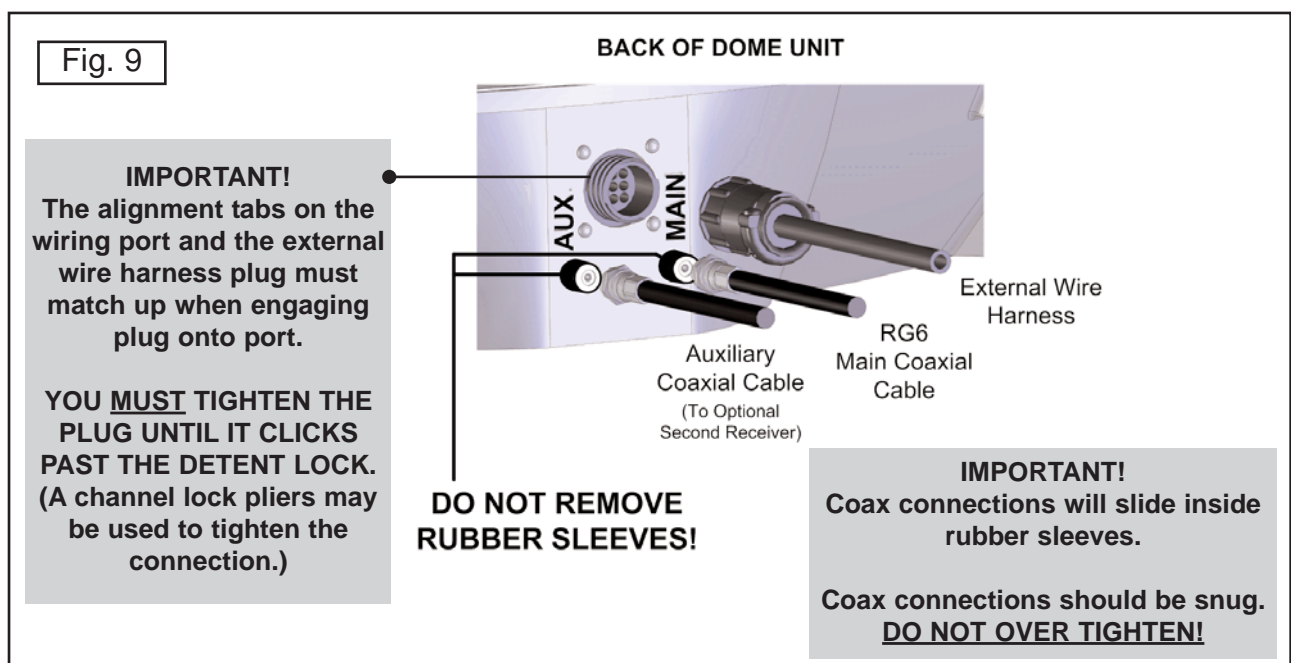
## EXTERNAL WIRING

9. Plug external wire harness into wiring port on back of dome unit and tighten connection until it clicks past the detent lock (**Fig. 9**).

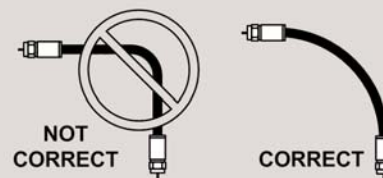
Note: The King-Dome is wired for a dual LNB. There are two coax ports on the back of the dome unit. The one labeled “MAIN” **MUST** be connected to the main receiver in vehicle. This is the receiver that will control automatic satellite switching if applicable. The one labeled “AUX” can be used for an additional receiver.

**IMPORTANT! Do not remove the rubber sleeves from the coax ports. The coax cable ends will slide inside the sleeves as they are tightened.**

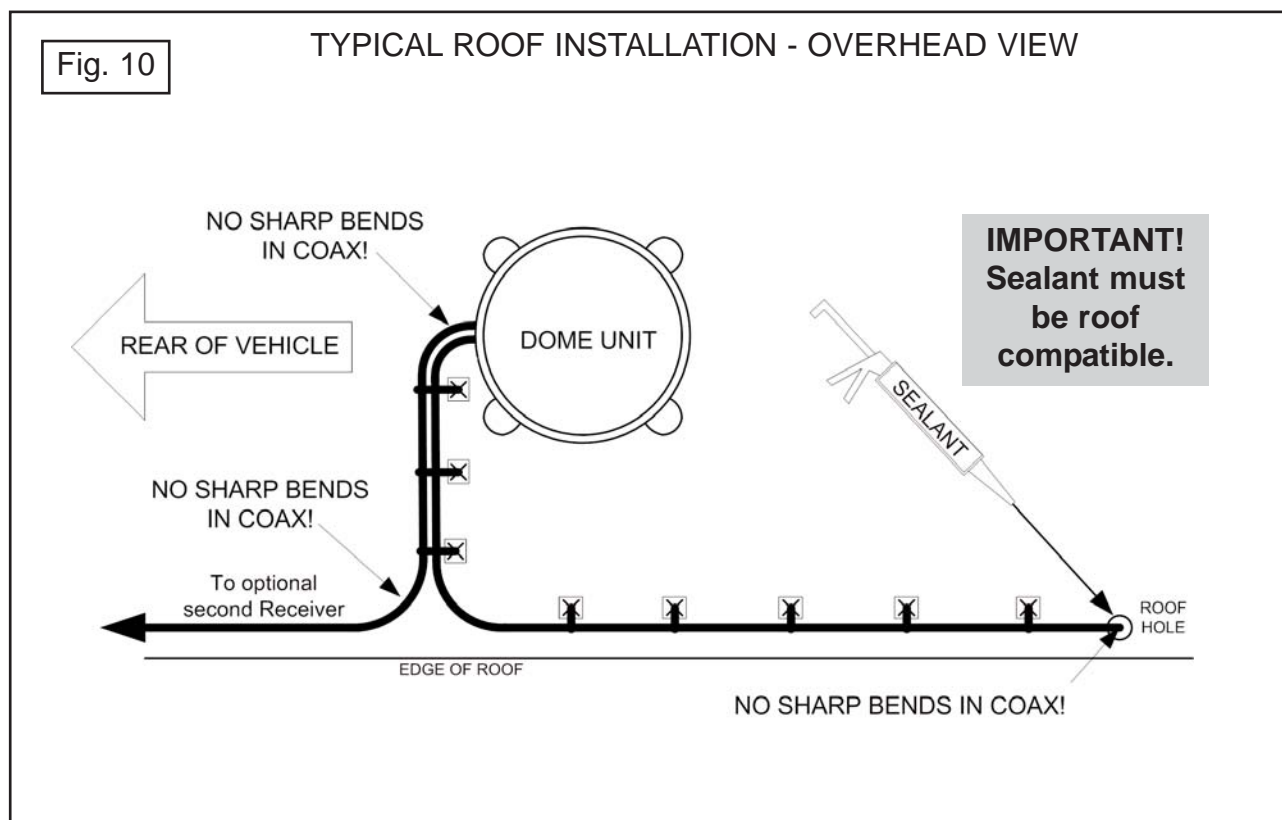
10. Connect coax cable to coax port labeled MAIN on back of dome unit and tighten connection. If using a second receiver, connect second coax cable to coax port labeled AUX and tighten connection. **Do not over tighten coax connections (Fig. 9).**



## AVOID SHARP BENDS WHEN ROUTING COAX!

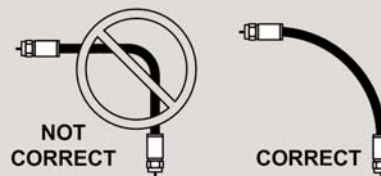


11. Run wires from the back of the dome unit to the roof edge, then along edge to location where wiring will be fed into the vehicle. (If installing an optional second receiver, run auxiliary coax to location where it will enter the vehicle.) Secure wiring to roof every 12-18 inches (**Fig. 10**).
12. Drill 3/4" hole through the roof and into the cabinet where receiver is stored. Feed wiring down through hole. Seal opening with roof compatible sealant so that it is entirely waterproof (inside and outside of the 3/4" hole). Repeat for optional second receiver (**Fig. 10**).



13. Remove blue protective sheet and red "position to rear" sticker from the dome unit.

## AVOID SHARP BENDS WHEN ROUTING COAX!



## INTERNAL WIRING

**IMPORTANT:** The connection between the dome unit and the receiver must be a direct connection with no devices in between. Any other devices should be downstream from the receiver.

14. Inside vehicle, connect main coax from the dome unit directly to the “satellite in” port of the main receiver. Do not go through an “A-B” or any other switch, box, or booster. Connect auxiliary coax directly to optional second receiver.

**IMPORTANT:** Power connection must be a non-shared circuit. Excessive current draw on the circuit will cause the unit to operate improperly. Power and ground connections must be made after the wires are connected to the dome unit.

15. Connect red and black two conductor wire to a power source and ground. Red connects to +12 volts, and black connects to ground.
16. Plug phone style controller cable into Controller.

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Note: Satellite re-configuration requires a King Controls Diagnostic Keypad #1844 not supplied with the antenna. To configure your antenna for a different service, contact your local authorized King-Dome dealer or call King Controls at (800) 982-9920.

The King-Dome In-Motion Satellite System with integrated DVB (models 9754 and 9754-LP) can be configured to lock on a specific satellite, or auto switch between a pre-set pair of satellites.

The system is factory pre-set for basic DIRECTV service broadcast from the 101° W satellite. To configure the dish for other services, you will need to change the satellite switching mode and satellite service configuration as outlined below and on the next page.

### SATELLITE SWITCHING MODE

You can change the operating mode to automatically switch between satellites 110/119 for Dish Network, and 101/110/119 for DIRECTV as follows:

Switching Mode	Satellite Service	Satellites
16	DIRECTV Plus	a. (satellites 101, 119) b. (satellites 101, 110, 119 HDTV*)
26	DISH 500 (SW21 switch)	(satellites 110, 119)
02	Single satellite mode	(manual switching)

\* Note: Requires optional HD converter accessory purchased separately.

1. Unplug the controller and plug in the Diagnostic Keypad.
2. Press ON.
3. Press **\* 46 #** to display the current satellite switching mode.
4. To change the satellite switching mode, press
  - \* 96 #**
  - \* 66 #**
  - \* 88 #**



5. Press the UP and DOWN arrows (2 and 8 keys) to choose the desired switching mode.
6. Press **\* 47 #** to lock in setting.
7. Turn unit **OFF** and back **ON** to save setting.
8. Press **\* 46 #** to display code for new satellite switching mode.

## SATELLITE SERVICE

You can select the desired satellite service provider as follows:

Provider Code	Satellite Service Provider
01	DIRECTV
10	DISH Network
91	Bell ExpressVU satellite 91°

1. Press ON.
2. Press **\* 24 #** to display the current service provider.
3. To change the current service provider, press  
**\* 96 #**  
**\* 66 #**  
**\* 88 #**
4. Press the UP and DOWN arrows (2 and 8 keys) to choose the desired service provider.
5. Press **\* 25 #** to lock in setting.
6. Turn unit **OFF** and back **ON** to save setting.
7. Press **\* 24 #** to display the code for the new service provider selected.
8. Unplug the Diagnostic Keypad and plug the controller back in.

**IMPORTANT:** There must be a clear “line of sight” to the southern sky. Mountains, buildings, trees, telephone poles, etc. can all block the satellite signal from reaching the dish.

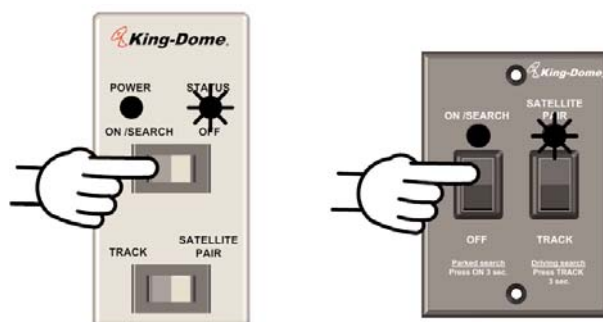
The distance driven since last performing a search may affect how long it takes for the King-Dome to find the satellite.

Satellite TV and receiver technology are constantly changing. If you experience difficulty go to [www.kingcontrols.com](http://www.kingcontrols.com) or contact the King Controls Service Department at (800) 982-9920, ext. 373.

1. Turn on TV and Receiver. “Searching for Satellite” or similar will appear on TV screen.

2. On King Dome controller, press and hold ON/SEARCH for **3 FULL SECONDS**.

Power light turns steady GREEN.



### STATUS LIGHT

flashes a variety of colors  
for about 30 seconds

RED-flashing

GREEN-flashing (may start  
flashing RED again)

GREEN-steady

### SYSTEM STATUS

unit performs self-diagnostic

search in progress

potential satellite found

satellite(s) found and search is complete

3. If the status light is steady GREEN, and your programming does not appear, press the reset button on your DIRECTV receiver. If using Dish Network, hold the receiver power button in for 10 seconds to reset your receiver. Consult your receiver owner's manual for further details.
4. When receiver reset is complete, select a channel or the program guide to view your programming. Turn off the King-Dome and enjoy.

**Note:** If you are using the automatic satellite switching feature, you must leave the King-Dome on.



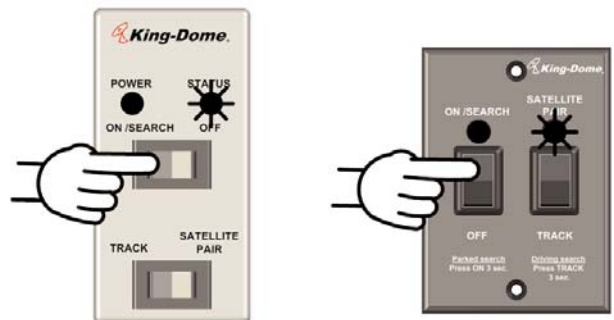
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The distance driven since last performing a search may affect how long it takes for the King-Dome to find the satellite.

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1. Turn on TV and Receiver. “Searching for Satellite” or similar will appear on TV screen.

2. On King Dome controller, momentarily press ON/SEARCH.



3. Press TRACK.

### STATUS LIGHT

alternating colors

GREEN-flashing

GREEN-steady

### SYSTEM STATUS

Initializing

Potential satellite found

Target satellite found (tracking)

4. If the status light is steady GREEN and your programming does not appear, press the reset button on your DIRECTV receiver. If using Dish Network, hold the receiver power button in for 10 seconds to reset your receiver. Consult your receiver owner's manual for further details.
5. When receiver reset is complete, select your desired channel and enjoy.

**Note:** While driving and in tracking mode, objects such as bridges, buildings and trees may occasionally block the satellite signal from reaching the antenna. Line of sight obstructions may cause the picture on your TV to freeze, pixel or be lost temporarily.

If the antenna does not sense vehicle motion after several minutes, it will enter sleep mode. The antenna will automatically wake and begin tracking if it senses vehicle motion or a severe drop in satellite signal.

When you park for the evening or any extended period, it is recommended that you perform a stationary search.

## DISH 500 FOR DISH NETWORK

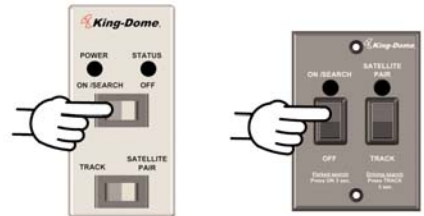
The King-Dome (models 9754 and 9754-LP) will automatically switch between the 110 and 119 satellites for Dish Network by using the receiver's remote control.

Note: King Controls recommends using a Dish Network model 311 receiver for automatic satellite switching.

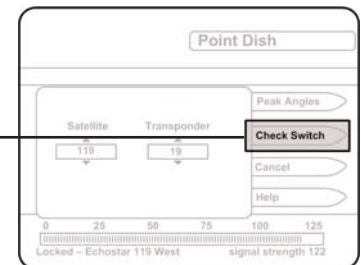
The SW21 switch is a software configuration that is loaded into the receiver after running a check switch test with the dish locked on and configured for Dish 500 switching mode.

This is a one time procedure and will not need to be repeated after successful installation, unless the check switch test is run again while connected to a home dish system.

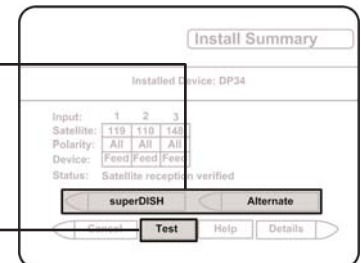
1. Turn on the TV and satellite receiver.
2. On the King-Dome controller, press and hold the ON/SEARCH button for 3 seconds.  
The antenna will lock onto the 110 and 119 satellites before completing the search process. **After the satellites have been located and the acquisition process is complete, the status light will be steady green.**



3. On the receiver remote, press menu, 6, 1, 1.
4. Highlight Check switch and press select.
5. Make sure Superdish and Alternate boxes are **NOT** selected.
6. Highlight Test and press Select.



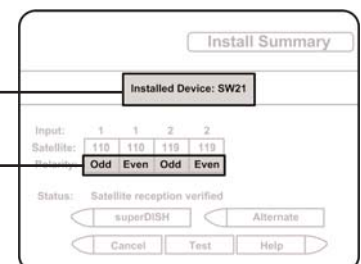
The unit will perform a check switch test, and the dish will periodically move back and forth. (This process will take several minutes.)



7. When test is complete, SW21 appears as the installed device, and there must be no "X"s in the indicated columns.

**MUST SHOW "SW21"**

**NO "X"s**



8. If indicated results are not obtained, go back to Step 3 and run test again. Test may need to be run several times before correct switch setting appears.

**DIRECTV**

To receive programming from the DIRECTV 101 satellite only, your receiver must be set for round dish-1 satellite. Do this through the receiver's satellite set-up menu screens.

To automatically switch between the 101 and 119 satellites for DIRECTV, your receiver must be set for oval dish-2 satellites. Do this through the receiver's satellite set-up menu screens.

To switch between the 101, 110, and 119 satellites for HDTV requires the purchase of an optional HD converter kit with control switch #9748, and setting the receiver for oval dish-3 satellites in the receiver's satellite setup menu screens. An HD receiver and HD ready TV are also required.

Note: To inquire about reception of HDTV signals contact your local authorized King-Dome dealer or call King Controls at (800) 982-9920.

## SECTION 9

## TROUBLESHOOTING

SYMPTOM	POSSIBLE REASON	COURSE OF ACTION
<b>STATIONARY</b>		
Unit does not find satellite. (STATUS light flashes red or green.)	Did not hold ON/SEARCH button for <u>3 FULL SECONDS.</u>	Hold ON/SEARCH button for <u>3 FULL SECONDS.</u>
STATUS light blinks orange.	Before search: bad coax connection.  After unsuccessful search (approximately 25 minutes): obstruction in line of sight between dome and satellite.	Call King Controls.  Move vehicle to have unobstructed view of southern sky.
STATUS light does not stop rapidly flashing red and green.	Self check failed: potential motor problem.	Call King Controls.
STATUS light does not turn on or is dim.	Bad power source (low voltage).  Bad power or controller cable connection at dome.  Bad controller cable connection at controller.	Call King Controls.
STATUS light is steady green but no picture.	Satellite receiver is off or requires reset.	Turn receiver on or reset.
<b>IN-MOTION</b>		
Picture freezes, pixelates, or is temporarily lost.	Objects such as bridges, buildings, and trees may temporarily block signal from reaching the antenna.	Problem will stop when objects no longer block signal.
STATUS light is steady green but no picture.	Satellite receiver is off or requires reset.	Turn receiver on or reset.

The King-Dome Satellite System has been designed to be maintenance and trouble free.

For optimum signal strength, keep the dome clean from dirt, bugs, and other debris. Periodic washing of the dome with mild soap and water is recommended.

If you plan on storing your vehicle for long periods of time, it is recommended that the system be put through a search procedure on a quarterly basis to keep all moving parts in good working order.

If you have any comments or questions, please contact the King Controls Service Department at (800) 982-9920, or email King Controls at [info@kingcontrols.com](mailto:info@kingcontrols.com)

## Rain Fade

Rain or dew on the dome can cause signal interference and make the digital picture freeze, pixel or go out altogether. This loss of signal is commonly referred to as “rain fade” and is caused by the combination of water in the atmosphere and water on the dome surface.

To minimize this issue and eliminate the effects of water on the dome, apply King Controls **Dome Magic®** rain fade solution to the dome. This will prevent water from sticking to the dome surface and blocking the signal. For additional details on **Dome Magic®** rain fade solution please contact your authorized King-Dome dealer or call King Controls at (800) 982-9920.



Single Application Packet #1830-SP



Spray Can #1830

Note: **Dome Magic®** will discolor black domes or domes painted a dark color.

Every King Controls Satellite System is thoroughly inspected and tested before leaving the factory. It is covered by a two year parts and one year labor limited warranty from the date of original purchase. This warranty does not cover installation and external wiring or refurbished units.

Should any trouble develop during the warranty period, contact King Controls or one of its certified dealers. Only King Controls and certified dealers are authorized to perform warranty evaluations and repairs.

If it is determined that the unit needs to be returned, return COMPLETE product, freight prepaid, to :  
**King Controls, 11200 Hampshire Ave. S. Bloomington, MN 55438-2453.** If inspection shows the trouble is caused by defective workmanship or material, King Controls will repair (or at its option, replace) without charge.

This warranty does not apply where:

- The product has been abused, misused, improperly installed or improperly maintained.
- Repairs have been made or attempted by others who are not certified by King Controls to do such repairs.
- Repairs are required because of normal wear and tear.
- Alterations have been made to the product.

**In no event shall King Controls be liable for any indirect, incidental, or consequential damages from the sale or use of the product. This disclaimer applies both during and after the term of the warranty.**

**King Controls disclaims liability for any implied warranties, including implied warranties of “merchantability” and “fitness for a specific purpose,” after the one year term of this warranty.**

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.





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